

A NEW GENUS AND SPECIES OF EULOPHIDAE (HYMENOPTERA) FROM  
COSTA RICA WITH NOTES ON THE GENUS

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*Abstract.*—*Ogmoelachertus*, new genus, with type species *O. mandibularis*, new species (Hymenoptera: Eulophidae) are described. This species is a parasitoid of *Mnasicles hicetaon* Godman (Lepidoptera: Hesperiiidae) in Costa Rica. Notes on the relationship of this genus to others in the Eulophinae are given.

*Key Words:* taxonomy, systematics, Chalcidoidea, parasitoid, new species, Eulophidae

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As part of ecological studies on parasitoids of free-living lepidopterous larvae in Costa Rica, specimens came to my attention that I was unable to assign to any described species. Because of a unique suite of characters and to provide a name to allow further study of the biology of the parasitoid, I am taking this opportunity to describe species.

Morphological terminology follows that of Gibson (1997). Abbreviations for museums are: (INBIO) Instituto Nacional de Biodiversidad, Santo Domingo de Heredia, Costa Rica; (USNM) National Museum of Natural History, Smithsonian Institution, Washington DC, USA; (BMNH) The Natural History Museum, London, UK.

*Ogmoelachertus* Schauff, new genus

Type species.—*Ogmoelachertus mandibularis* Schauff.

Diagnosis.—Mandibles each with a single rounded tooth (Fig. 3); postoccipital carina present; mesoscutum with fine but complete notauli and covered by numerous scattered setae, with the enlarged mesoscutal setae restricted to posterolateral margin (Fig. 5); scutellum with sublateral

grooves indicated by line of foveae curving inward at posterior margin and meeting medially; propodeum (Figs. 4, 6) with complete median carina flanked laterally by irregular sublateral carinae.

Description.—*Female.* Head: Occiput, vertex, and eyes covered by scattered small setae. Malar suture complete. Antenna with 4 funicular segments and 3-segmented clava.

*Thorax:* Pronotum (Figs. 2, 5) with slightly enlarged paired setae along posterior margin. Notauli complete. Scutellum with lateral grooves present as a series of reticulate cells, curving inward posteriorly and meeting medially. Notauli complete. Scutellum with lateral grooves present as a series of reticulate foveae, curving inward posteriorly and meeting medially. Propodeum (Fig. 4) with complete median carina ending anteriorly in a slightly raised triangular extension which is invaginated medially, with several smaller carinae laterad of median carina and below extension. Median propodeum distinctly elevated above lateral surface. Spiracle ovoid, with one or two setae medial to opening. Callus with a complete line of setae, posteriorly

with a distinct supracoxal flange. Upper and lower mesepimeron divided by complete transepimeral suture. Petiole transverse.

*Metasoma*: Ventrally with hypopygium extending about half length.

*Forewing*: Postmarginal vein a longer than stigmal, with a complete line of setae on leading margin of costal cell. Basal setal line and cubital setal line complete.

*Legs*: Hind tibia apically with two stout spines, each shorter than basitarsus.

*Etymology*.—The genus name is a combination of *Ogmos* (meaning furrow) and *Elachertus* and refers to the furrows on the scutellum. Gender masculine.

Comparison to other genera of Euplectrini and Elachertini.—*Ogmoelachertus* is very similar to *Elachertus*, *Hyssopus*, *Cristelacher*, *Diglyphomorpha*, and *Deutereulophus* which all have the lateral grooves on the scutellum complete, curved inward posteriorly, and meeting medially along the hind margin, although in most species in these genera the grooves are expressed as fine lines and not foveae and in *Diglyphomorpha aurea* the lines do not quite meet medially. The notauli in all these genera are complete and the propodeum has a simple, complete median carina (in *Cristelacher* the carina is expanded anteriorly into a cup shaped structure). The arrangement of carinae on the propodeum of *Ogmoelachertus* is unique among genera in this group, consisting of a median carina flanked by irregular costulae and the dorsal "cup" with a y-shaped invagination along its anterior edge (see arrow on Fig. 6) (this margin is entire in the other genera). This arrangement is very similar to *Diglyphomorpha*, but that genus has a somewhat different pattern of carinae and there is no dorsal invagination of the median carina.

The presence of a postoccipital carina can be found in a few other elachertines and euplectrines (e.g., *Cristelacher* and *Platyplectrus*), but is absent in the other genera cited above.

The mandibles of *O. mandibularis* are small, not meeting medially and with a sin-

gle tooth. Species of Euplectrini generally have the mandibles reduced, not meeting medially, and are rounded without any obvious teeth. Specimens of *Aroplectrus flavescens* (Crawford) have mandibles somewhat similar to *Ogmoelachertus*. In *A. flavescens*, however, the oral opening is very small due to the abrupt narrowing of the head below the eyes. Because of this narrowing, the small mandibles come much closer to touching medially than in other euplectrines I have examined. However, the mandibles themselves are still very small and I do not consider this to be homologous to the condition in *Ogmoelachertus*.

Genera of Elachertini generally have well developed mandibles that meet medially and have either 3 distinct teeth or some combination of larger teeth with several smaller teeth dorsally (e.g., *Sympiesomorpha brasiliensis* Ashmead and *Diglyphomorpha aurea* (Howard)). *Hoplocrepis*, another poorly known eulophine genus, and species of *Eulophus* also have reduced mandibles similar to those of Euplectrini. In summary, *Ogmoelachertus* exhibits characters which seem intermediate between elachertines and euplectrines. However, given that enlarged hind tibial spurs are still considered the defining synapomorphy for Euplectrini, *Ogmoelachertus* would be placed among the elachertines.

Comparison to other Costa Rican Eulophidae.—There are no recent keys to genera of Eulophidae for Central or South America, although the Costa Rican Eulophidae were summarized with a key to the subfamilies by LaSalle and Schauff (1995). Genera known to occur in Costa Rica include *Elachertus*, *Hyssopus*, *Deutereulophus*, and *Platyplectrus*. In the recent key to Nearctic genera of Eulophidae (Schauff et al. 1997), *Ogmoelachertus* would key to couplet 34. At that point, the key would fail because the characters do not match *Hoplocrepis* and in the second part of the couplet the statement "head without obvious occipital carina" does not fit *Ogmoelachertus* (although it could be confused for the postoc-

cipital carina by some users). If one followed this option, however, specimens of *Ogmoelachertus* would run to couplet 40 (*Elachertus* and *Diglyphomorpha*). *Diglyphomorpha* has no postoccipital carina and, as mentioned above, *Elachertus* has a simple median carina with no anterior expansion or other carinae. *Ogmoelachertus* is similar in many respects to *Platyplectrus* which has submedian grooves on the scutellum and a simple median propodeal carina and which is assigned to the Euplectrini (Schauff and LaSalle 1993).

***Ogmoelachertus mandibularis* Schauff,  
new species**  
(Figs. 1–6)

**Description.**—*Female*: Body length 2.4 mm. *Color*: body mostly black except the following: face dark brown, slightly lighter under toruli; antenna with scape yellow, flagellum light brown; mandible light brown; legs light yellow to white except hind coxa dark brown to black; dorsally metasoma with large central yellow area extending from just behind petiole posteriorly about one third length of dorsum.

*Head*: Weakly reticulate over most of surface, nearly smooth under toruli and under eye. Slightly more heavily sculptured and slightly indented above and laterad of clypeus (Fig. 3). Occiput, vertex, and eye with numerous scattered setae (Fig. 1). Postoccipital carina present, complete although weak medially. Occiput with weak carina medially. Ratio of width of eye: width of face 11:30. Ratio of malar space: eye height 11:32, lateral ocellus slightly more than 1 diameter from eye (OD:OOD 6:8). Face below eyes rounded, not abruptly narrowing. Toruli separated from each other by about 2× their own diameter. Malar suture present, complete. Mandibles meeting medially, each with single, blunt tooth (Fig. 3). Scape 5× as long as wide. Ratio of funicle segments/clava 14:10:10:9:17, width of flagellum ranging from 7 at first flagellar segment to 8 at clava.

*Thorax*: Pronotum without transverse ca-

rina, with scattered setae, rugosely reticulate. Mesoscutum (Fig. 5) reticulate, becoming smoother, and shinier posteriorly, with 3 pairs of enlarged setae along posterior margin (one pair just medial to notauli, two pairs laterally on side lobe). Notauli present as fine grooves. Dorsal axillar/scutellar margin with broad, curved, deep furrow. Axillae reticulate. Scutellum shiny and reticulate to alutaceous, lateral cells larger. Metanotum bordered anteriorly by a narrow band of small alveoli, medially reticulate (Fig. 4). Propodeum (Figs. 4, 6) with complete median carina ending anteriorly as a slightly raised triangular extension invaginated medially and with several smaller carinae laterad of median carina and below extension, median propodeum distinctly elevated above lateral surface, laterally with paired diverging carinae anteriorly at junction with raised projection, with curved sublateral carinae and costula. Median carina with anterior cuplike flange reduced, rounded, and invaginated. Spiracle ovoid, with 10–12 setae laterad and below spiracle and with one or two setae medially. Posterior propodeal margin with distinct supra-coxal flange. Upper and lower mesepimeron divided by complete transepimeral sulcus. Petiole in dorsal view wider than long, smooth, with posterior transverse carina.

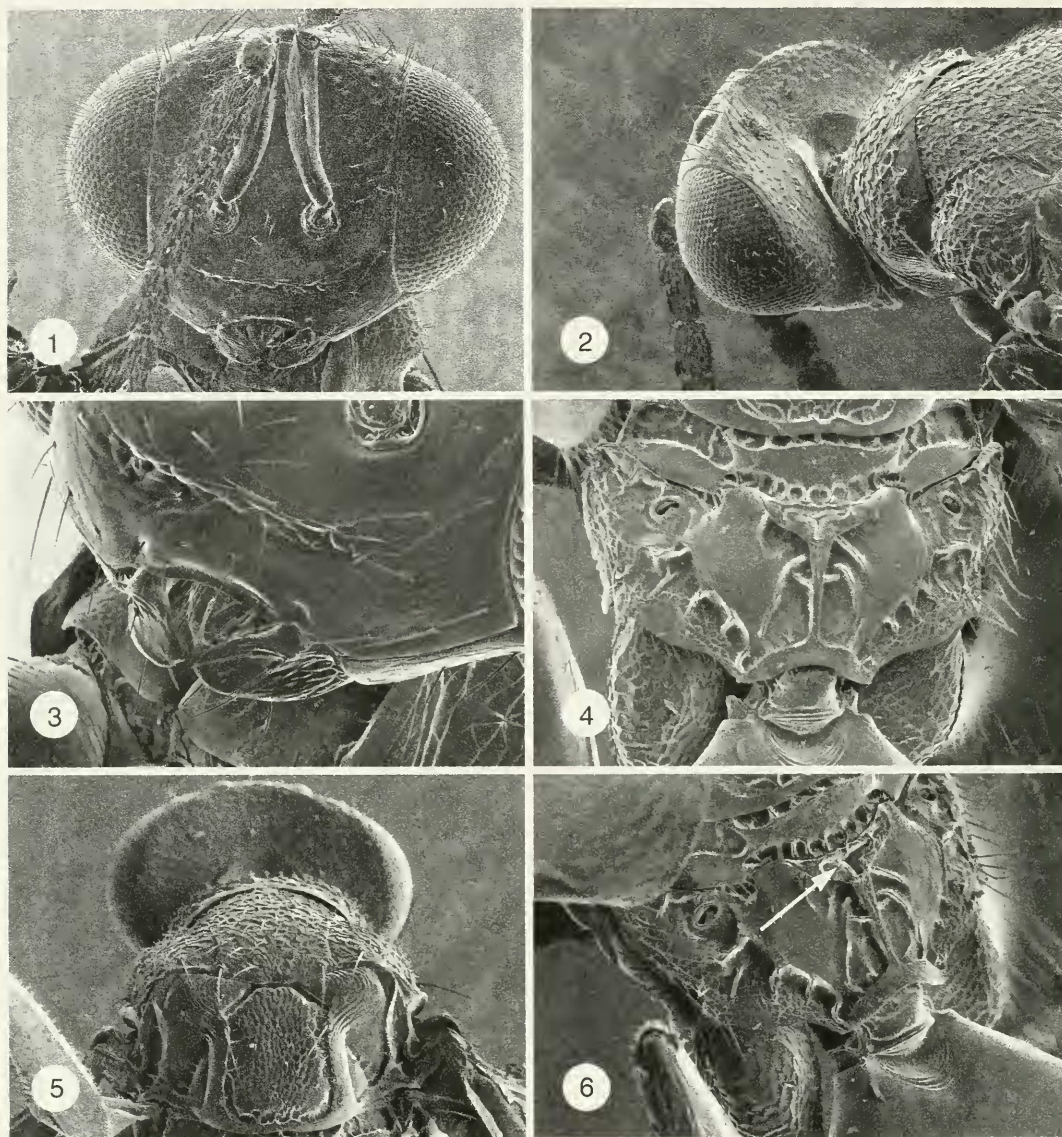
*Metasoma*: Ovate, about 1.2× as long as wide in dorsal view. Hypopygium extending about half length of metasoma. Ovipositor sheaths not exerted past tip of metasoma.

*Forewing*: Hyaline, about 2.5× as long as wide. Postmarginal vein longer than stigmal vein, with a complete line of setae on leading margin of costal cell, basal and cubital setal lines complete. Ratio of submarginal:marginal:postmarginal:stigmal veins 30:30:15:10. Costal cell with complete row of setae along anterior margin.

*Legs*: Hind coxa reticulate. Hind tibia apically with two stout spines, each shorter than basitarsus.

*Male*: Unknown.

*Types*.—Holotype ♀ with label data: Cos-



Figs. 1–6. Scanning electron micrographs of *Ogmoelachertus mandibularis*. 1, Face, frontal view. 2, Head and anterior thorax. 3, Lower face and mandibles. 4, Propodeum. 5, Mesoscutum and scutellum. 6, Propodeum, lateral view.

ta Rica. Guanacaste, Area de Conservacion Guanacaste, Quebrada Aserradero, 160 m, Lambert North 320050, Lambert South 365300, 12/06/94. Deposited in INBIO; 3 ♀ paratypes with same data as holotype deposited in USNM (2) and BMNH (1).

**Distribution.**—This species is known only from the type locality.

**Host.**—Reared from larvae of *Mnasicles*

*hicetaon* Godman (Lepidoptera: Hesperidae).

**Etymology.**—The species epithet refers to the distinctive rounded mandibles each with only a single tooth.

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#### LITERATURE CITED

- Gibson, G. A. P. 1997. Chapter 2, Morphology and terminology, pp. 16–44. *In* Gibson, G. A. P. et al., eds., *Annotated Keys to the Genera of North American Chalcidoidea (Hymenoptera)*. NRC Research Press, Ottawa, 794 pp.
- LaSalle, J. and M. E. Schauff. 1995. The Chalcidoid families. Eulophidae, pp. 315–329. *In* Hanson, P. and I. D. Gauld, eds., *Hymenoptera of Costa Rica*. Oxford University Press, Oxford, UK, 893 pp.
- Schauff, M. E. and J. LaSalle. 1993. Nomenclatural notes on genera of North American Eulophidae (Hymenoptera: Chalcidoidea). *Proceedings of the Entomological Society of Washington* 95: 488–503.
- Schauff, M. E., J. LaSalle, and L. Coote. 1997. Chapter 10, Eulophidae, pp. 327–430. *In* Gibson, G. A. P. et al., eds., *Annotated Keys to the Genera of North American Chalcidoidea (Hymenoptera)*. NRC Research Press, Ottawa, 794 pp.